CITY OF COLORADO SPRINGS
FIRE BOARD OF APPEALS MEETING **MINUTES**
PIKES PEAK REGIONAL BUILDING DEPARTMENT
2880 INTERNATIONAL CIRCLE
AUGUST 9, 2019 – 8:30 A.M. to 10:00 A.M.

Present Fire Board of Appeals Members (6):	Industry Represented:
Vince Colarelli	Construction
David Helmer	Large Business
Ron Honn	Citizen At-Large
John Putnam	Insurance
Christine Riggs, Vice Chair	Architecture
Roger Wallace, Chair	Fire Suppression
Not Present (0):	
-	-
Vacant	Small Business
Present Fire Board of Appeals Acting Secretary	Representing:
Mark Trudell, Deputy Fire Marshal	Colorado Springs Fire Department
Attendee(s):	Representing:
Steve Dubay, Deputy Fire Chief	Colorado Springs Fire Department
Kris Cooper, Deputy Fire Marshal	Colorado Springs Fire Department
Jennifer McWilliams, Sr. Office Specialist	Colorado Springs Fire Department
Dave and Robyn Pollock, Residents	2545 Brogans Bluff Drive
Frederick Stein, Attorney	City Attorney's Office
Dee Withee, Fire Protection Engineer II	Colorado Springs Fire Department

NOTE

Due to unknown circumstances, audio recording of the August 9, 2019, Fire Board of Appeals' meeting is not intelligible. Therefore, these summary minutes are based on Senior Office Specialist Jennifer McWilliams' written records and reference of provided documents. The minutes do not indicate verbatim motions nor do they substantiate each Fire Board of Appeals member's voting position.

CALL TO ORDER

Chairperson Roger Wallace called the meeting to order at 8:31 a.m.

ADMINISTRATIVE

1. **Fire Board of Appeals Meeting Minutes July 12, 2019**

   July 12, 2019's Fire Board of Appeals Meeting Minutes require corrections specific to attendees. Fire Board of Appeals Member (Board Member) Vince Colarelli is listed as present; he was not in attendance. Board Member Ron Honn is listed as not present; he was in attendance.

   Motion to amend July 12, 2019's Fire Board of Appeals Meeting Minutes to reflect Board Member Colarelli as not present and Board Member Honn as present made and seconded. (The motioning and seconding Board Members' names are not documented.)

Aye: 6 – Colarelli, Helmer, Honn, Putnam, Riggs, and Wallace
No: 0 – None
Not present: 1 – The vacant small business representative

2. **Contractor Licensing**
   A. **Fire Alarm Contractor** A
      i. Business Name: Reliance Electric DBA Paracom Systems
      Principal Officers: Nephi Allred, President
      Frederick S. Barlow, Vice President
      Licensee: Ephraim J. Bistline
      RME: Ephraim J. Bistline

      Deputy Fire Marshal (DFM) Trudell reported the applicant meets Pikes Peak Regional Building Code's FAC A licensing requirements. DFM Trudell recommended approval.

      Board Member Colarelli motioned to approve, seconded by Board Member Helmer.
      Motion passed with a vote of 6-0-1.

      Aye: 6 – Colarelli, Helmer, Honn, Putnam, Riggs and Wallace
      No: 0 – None
      Not present: 1 – The vacant small business representative

   B. **Fire Suppression Contractor C**
      i. Business Name: Rocky Mountain Fire Extinguisher, LLC
      Owner: Amanda Hensler
      Licensee: Amanda S. Hensler
      RME: Amanda Hensler

      DFM Trudell reported the applicant meets Pikes Peak Regional Building Code's FAC C licensing requirements. DFM Trudell recommended approval.

      Board Member Putnam motioned to approve. Seconded by Vice Chair Riggs.
      Motion passed with a vote of 6-0-1.

      Aye: 6 – Colarelli, Helmer, Honn, Putnam, Riggs, and Wallace
      No: 0 – None
      Not present: 1 – The vacant small business representative

3. **Request by Dave and Robyn Pollock, residents of 2545 Brogans Bluff Drive, for relief of the Amended 2015 International Fire Code Appendix K Wildland Urban Interface Mitigation Requirements for the Hillside Overlay Zone**
   Location: 2545 Brogans Bluff Drive, Colorado Springs, Colorado

   Fire Protection Engineer (FPE) Dee Withee explained 2545 Brogans Bluff Drive (the Project) lies within City of Colorado Springs' hillside overlay. All building plans and construction must meet the amended 2015 International Fire Code's Appendix K Wildland Urban Interface Mitigation Requirements for the Hillside Overlay Zone. Approved plans for the Project indicate the deck be constructed of composite material. The Project's deck and the deck's ceiling are constructed of Thermory®Ash (the Ash), a modified wood material that the Project's residents,

Dave and Robyn Pollock (the Residents), considered code compliant. The Ash does not comply with the amended fire code. Per the Residents, the deck's ceiling is constructed of a fiber cementitious backing covered by the Ash. The cementitious backing is code compliant. Therefore, the Residents request a variance specific to the Project's deck.

FPE Withee presented copies of the following:

1. Colorado Springs Fire Prevention Plan Review Report, dated May 30, 2018, specifying "Decks and other habitable spaces shall be of ignition resistant or non-combustible decking materials, such as metal or composite materials. Wood is permitted for use for large structural components and railing (i.e. vertical members)."
2. Colorado Springs Fire Prevention Inspection Report, dated July 26, 2019, listing "Visual decking must be ignition resistant materials plans show composite material" as a violation
3. Fire Testing Laboratory's test report, dated May 9, 2013, on Thermory® USA, LLC's Thermory®Ash decking materials, indicating "0.79 x 5.9" T.M. Ash Decking and 1.02" x 5.7" T.M. Ash Decking has a Class B flame-spread classification
4. FX Lumber Guard®'s technical data submittal sheet (not dated), indicating a Class A fire rating is obtained when properly applied
5. Flame Stop II's data sheet (not dated), indicating a Class A fire rating is obtained when properly applied
6. California Department of Forestry & Fire Protection Listing Service document, dated July 1, 2018, expiring June 30, 2019, rating Thermally-Modified Ash Deck Boards with dimensions of ¾' x 5-7/8" or 1.02" x 5.7" with a maximum of 3/16" edge-to-edge spacing as "Class B Flame Spread"
7. Colorado Springs Utilities Public Map Viewer, dated July 29, 2019, showing the Project's location on a plat map

FPE Withee asserted Colorado Springs Fire Prevention reports specify fire code inspectors informed the Residents of fire code requirements.

FPE Withee explained FX Lumber Guard®'s technical data submittal sheet and Flame Stop II's product data sheet indicate a Class A flame spread rating is obtained when the product is properly applied. Proper application of either product to the Ash would bring the treated Thermory®Ash decking to a Class A rating and conform to the current fire code's wildland urban interface mitigation requirements for the hillside overlay zone.

Resident Dave Pollock presented six (6) photos of or relating to the application of FX LumberGuard to the Project's deck. Mr. Pollock stated the fire retardant coating material was applied prior to obtaining Fire Board of Appeals' ruling because he understood FX LumberGuard to be in compliance with the fire code.

FPE Withee declared Colorado Springs Fire Department's recommendation for resolution is proper application of an approved fire retardant wood treatment, such as FX LumberGuard, to all wood decking.

Vice Chair Riggs motioned to approve Dave and Robyn Pollock's request for relief of the amended 2015 International Fire Code Appendix K Wildland Urban Interface Mitigation Requirement for the Hillside Overlay Zone. Approval is contingent on proper application of FX LumberGuard to the Ash decking material.

Motion passed with a vote of 6-0-1.

Aye: 6 – Colarelli, Helmer, Honn, Putnam, Riggs, and Wallace

No: 0 – None
Not present: 1 – The vacant small business representative

DISCUSSION ITEMS

1. **Recruit the Small Business Representative**

   DFM Trudell requested Board Members recruit potential candidates for the vacated small business representative position.

ADJOURN

Board Member Putman motioned to adjourn, seconded by Vice Chair Riggs.
Motion passed with a vote of 6-0-1.

Aye: 6 – Colarelli, Helmer, Honn, Putnam, Riggs, and Wallace
No: 0 – None
Not present: 1 – The vacant small business representative

Meeting adjourned at 8:53 a.m.

Respectfully submitted by,

Deputy Fire Marshal Mark Trudell

COLORADO SPRINGS FIRE PREVENTION
PLAN REVIEW REPORT

July 26, 2019

Tax Id: 7315107005 **DSN:**

Project Description: Private Hillside Residence, 2545 Brogans Bluff, New Hill Hide Home

SYSTEMS: None Required

CN:Code: 09 IBC - 09 IFC - 11 PPRBC/Class: R3/Const: VB/Stories: 3/Size: 5579/OL:

FH:Required Flow: 2000gpm /# Hydrants 2/On site flow: 2100

DV: Mountain Shadows Filing 12, Lot 5

Additional Comments:

Withee doc #1

Business Name: PRIVATE RESIDENCE **Address:** 02545 BROGANS BLUFF DR,

Plan Id: 20180195-HS-1 **Plan Description:** NEW RES HOME/HILSID

Plan Status: Approved/Corrected **Contractor:**

Review Status: APP/CORRECTED **Plan Reviewer:** Peterson, Roland Thomas **Review Date:** 5/30/2018

Status	Comment
FYI	*****(STANDARD COMMENT) This project is: Private Hillside Residence, 2545 Brogans Bluff, New Hill Hide Home Date of Plans:1/17/2018 This plan review is based on the requirements found within the adopted Editions of the International Building Code, International Fire Code and the related Standards.
FYI	(STANDARD COMMENT) 150-FT ACCESS Fire apparatus access roads shall be provided for every structure constructed or moved into or within the jurisdiction and shall be extended to within 150-feet of all exterior portions of the first story of any building. (2009 IFC õ503.1.1)
FYI	(STANDARD COMMENT) ADDRESSING Address shall be posted on street addressed side of structure. Minimum 5" numbers with 1/2" stroke. Contrasting color to background. (2009 IFC 505.1)
FYI	(STANDARD COMMENT) INCREASED WILDFIRE RISK. Residing in or near the hillside overlay or wildland-urban interface areas involves increased fire risks that may not apply in urban or more urbanized types of developed communities.
FYI	(STANDARD COMMENT) HILLSIDE ORDINANCE This lot/development is subject to the requirements of section of 20-4-10 5 CE (2) (Ordinances 93-48 and 93-49) of the City Code establishing minimum safety criteria for residential construction in the City's Hillside Areas. Ensure all landscaping complies with the wildfire interface specifications as required by the fire department and zoning/planning departments.
FYI	(STANDARD COMMENT) SOC RESPONSE TIMES

Fire service response times to this area do not fall within the CSFD interim Standard of Response Coverage. The CSFD is unable to provide the following level of service:
- 90% of all emergencies reached within 8 minutes (first due company)
- 90% of structure fires requiring a full effective fire-fighting complement (2 engine companies, 1 ladder/truck company) within 12 minutes.

Attention

(STANDARD COMMENT) FUELS MANAGEMENT

SAFETY ZONE:
Brush patches or clusters may be left in the safety zone, but shall be separated by clear areas of 10-feet or more of noncombustible materials or grass mowed to not more than 4-inches in height.

CLEARANCE TO MAIN STRUCTURE:
No combustible brush, trees or shrubs shall be allowed to be left, planted or allowed to grow within 15-feet of the main structure or significant accessory structure such as sheds, decks and pergolas. The trunks of deciduous trees may be allowed to be planted as close as 10-feet from structures where approved by the Fire Code Official.

Small brush patches not exceeding 100-square feet in size or trees no larger than 15 linear feet in any direction may be allowed to encroach into this zone.

PRUNING OF LIMBS:
Large trees shall not be allowed to have limbs overlap smaller trees or brush, creating ladder fuels, and shall be pruned of limbs to a height up to 10-feet while maintaining a minimum 70% of the tree's crown. Certain tree clusters may be permitted if sufficient clear area is provided and approved by the Fire Code Official.

CLEARANCE OF TREE BRANCHES TO STRUCTURES OR APPURTENANCES:
Character tree branches shall not extend over or under the roof or eaves, and the canopy or drip-line shall not be within 15-feet of a deck or similar combustible projection, wood burning appliance or chimney unless approved by the Fire Code Official.

For additional information concerning this issue - contact our Wildfire Mitigation Administrator at 385-7368 or www.csfd.coloradosprings.gov.

FYI

(STANDARD COMMENT) CLASS A ROOFING

A Class A roof covering (excluding solid wood roofing products) shall be installed on all Residential Occupancies and a minimum Class B roof covering shall be installed on all remaining occupancies (Not to replace Class A where already required by Table 15-A) at the time an application is made for a roofing or re-roofing building permit within the limits of the City of Colorado Springs, Colorado.

Attention

(STANDARD COMMENT) IGNITION-RESISTANT CONSTRUCTION REQUIREMENTS

1. Exterior cladding, eaves and soffits shall be constructed of ignition resistant materials, including but not limited to: fiber-cement board, stucco, masonry/brick, manufactured stone and similar materials. Natural wood/cedar siding, hardboard, vinyl and similar combustibles are not permitted. Natural wood or plastic products used for fascia, trim board materials and trim accents are allowed when painted or as approved.
2. For any portion of the attached structure with projections or overhangs, the area below shall have all horizontal under-floor areas enclosed with ignition resistive materials such as allowed in item 1 above.
3. Exterior doors shall be noncombustible or solid core not less than 1 3/4-inches thick. Windows within doors and glazed doors shall be tempered safety glass or multi-layered glazed panels.
4. Exterior windows shall be a minimum double pane. Tempered panes are preferable but not required.
5. All attic vents shall be screen with wire mesh or hardware cloth having openings no larger than 1/8-inch. Soffit vents are permitted, gable vents may be allowed as approved by the Fire Code Official.
6. Gutters and downspouts of non-combustible construction shall be installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. Drip edge shall extend into the gutter. Vinyl gutters may be allowed but must have a noncombustible landing area below the roof line, a minimum of 5-feet from the side of the structure/foundation.
7. Decks and other habitable spaces shall be of ignition resistant or non-combustible decking materials, such as metal or composite materials. Wood is permitted for use for large structural components and railings (ie vertical members).
8. The base of exterior walls, posts or columns shall be protected on the bottom side with provision such as fire resistant foam or wire mesh having openings no larger than 1/8-inch.
9. Chimneys serving fireplaces, and other solid or liquid fueled heating appliances shall have an approved spark arrestor or cap.

Attention	(STANDARD COMMENT) CONSTRUCTION PERMIT REVIEW REQUIREMENTS: Plans for any structure lying within the Hillside Overlay area must be approved by the Colorado Springs Fire Department Construction Services prior to issuance of a building permit. Final approval by CSFD on all permits issued by RBD is required prior to issuance of the Certificate of Occupancy.
FYI	*****(STANDARD COMMENT) FIRE FLOW REQUIREMENT: Size of Bldg. --5579--- sq ft Construction Type --VB---- Fire Sprinklers Y----- N--X--- Fire Walls Y ----- N ---X-- Required GPM: --2000--- gpm # of hydrant(s) required: ----2- Max AVG spacing between hydrants: --450--- ft Max hose lay: ---225-- ft
FYI	*****(STANDARD COMMENT) FIRE FLOW/HYDRANT REQUIREMENTS MET: On this site fire flows are --2100-- gpm, and the numbers of hydrant(s) are --3-- based on a THEORETICAL Report. This site, based upon the provided theoretical modeled fire flows, appear to meet the minimum flow requirements and/or the number of hydrant(s) for this structure.
FYI	(STANDARD COMMENT) WATER SUPPLY REQUIRED ON SITE Required water supplies for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site. It is the responsibility of th owner or their designated representative to ensure an approved water supply is provided (2009 IFC 1412)
FYI	(STANDARD COMMENT) CONTACTS FOR FLOW TESTING HYDRANTS PUBLIC/CITY OWNED HYDRANTS: Contact SEAN HIGBEE, CSU at 668-4595 or via email at shigbee@csu.org to schedule an ACTUAL flow test. Be sure to provide them with a CSFD plan review number to include with their flow reports. CSFD need not be present when City Utilities flow tests hydrants as we will accept their reports. PLEASE ALLOW 1-2 WEEKS NOTICE PRIVATE HYDRANTS: Contact your assigned inspector to schedule a flow test of PRIVATE OWNED hydrants. A contractor capable of performing the test will be required as CSFD Inspectors WITNESS only. CSFD will not accept flow test results we have not witnessed.
FYI	(STANDARD COMMENT) FIRE FLOW TEST RESULTS REQUIRED - EXISTING HYDRANTS: Actual hydrant flow test results dated within 5 years shall be provided prior to the arrival of combustible material on the construction site.
FYI	*****(STANDARD COMMENT) SCHEDULING INSPECTIONS --X---2017 Fee Schedule, ---2-- inspections/ --2--- hours (Inspection time is not transferrable) Please call 719-385-5982 Extension 2 to schedule all construction related inspection activities. You will need to schedule an inspection at the time of Framing and a final inspection near completion. Due to the dynamic nature of inspectors schedules, PLEASE call your inspection requests in with ample time to allow scheduling. When calling, please have your complete CSFD plan review number(s) ready for each inspection request. (i.e. 2013-1234 - HS-1) The CSFD Approved sets of plans are to be on site for all inspections.
FYI	*****(STANDARD COMMENT) DISAPPROVED ITEMS ADDRESSED

The plans have been resubmitted and all the disapproved comments have been addressed and/or corrected as follows:

1. Plans have been approved by Zoning.

FYI (STANDARD COMMENT) PERMITS

Insure all applicable permits are obtained from the Regional Building Department and the Colorado Springs Fire Department for the work that is being done at this site.

FYI (STANDARD COMMENT) REVIEWS:

Colorado Springs Fire Department plan reviews are based upon information provided on the drawings and/or the attached reference material. Issues or features that are not presented within the construction documents are assumed to be complaint with applicable codes/standards. It is the responsibility of the building owner to ensure that minimum code requirements are met as established by the Authority Having Jurisdiction, whether or not the requirements are specifically indicated on the submitted construction documents.

The CSFD has reviewed the submittal in accordance with the adopted fire code requirements, CSFD local amendments, City Code Standards, and applicable NFPA Standards. All plan review comments are subject to final on-site field inspections, and testing by the CSFD. Review and approval by the CSFD shall not relieve the applicant of the responsibility of compliance with the International Fire Code.
(105.4.4)

FYI (STANDARD COMMENT) RTP REVIEWER CONTACT:

If you have any specific questions or concerns about these comments, please feel free to contact me at:

Roland Peterson
Senior Fire Inspector, CSFD
2880 International Circle, Suite 200-7
Colorado Springs, CO 80910
(T) 719-385-7369 / (F) 719-385-7330
rpeterson@springsgov.com

Withee document #2

Colorado Springs Fire Prevention
Inspection Report

July 26, 2019

Business Name: PRIVATE RESIDENCE

Address:

Inspection Id: 201804022 **Plan Id:** 20180195-HS-1 **Originally Assigned Inspector:** McElligott, William C

Inspection Status: HS-HILLSIDE DISAPPROVED **Assigned Station:** **Shift:**

Inspector Activities

Inspector	Inspection Date	Elapsed Tim	No of Inspectors	CSFD Unit
McElligott, William C	07/24/2019	1.00	1	
McElligott, William C	05/30/2018		1	

Violations

Comments	Corrected?	Correct By Date
Comment: Inspection Hillside final 7-24-19 plans reviewed 2-6-18 1-Visual address is required 5" 2- Visual class A roofing Ok 3-Visual exterior cladding eaves and soffits ignition resistant materials ok 4-Visual projections and overhangs must be ignition resistant materials front porch ceiling tongue and groove wood ceiling is required to be ignition resistant materials materials 5-Visual exterior doors noncombustible and windows double pane Ok 6- Visual attic roof vents properly screened Ok 7-Visual gutters and downspouts non combustible Ok 8-Visual decking must be ignition resistant materials plans show composite material 9-Visual base of exterior walls properly sealed Ok 10-Visual fuels management safety zone ok 11-Contractor to provide CSU fire Flow report dated within 5 years Hillside final disapproved	Yes	08/07/2019

Backed by Fiber Cementious not per Homeowner.

Withee document #3

2018-0195
Bogan's Bluff

FIRE RATING

Test Results | THERMORY® Ash | Fire Rating

TESTED

- The rate of fire spread and smoke production in THERMORY® Ash.

RESULTS

- Class B was achieved, in comparison to kiln-dried Red Oak which results show to be a Class C.

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14 Jackson Square, Unit #5
Batavia, NY 14020

TEST REPORT

FOR

THERMORY® USA, LLC

1213 Wilmette Avenue, Suite 208
Wilmette, IL 60091

Standard Test Method for
Surface Burning Characteristics of Building Materials
ASTM E84 – 12a

Test Report No: FH-2403

Assignment No: H-977

Test Date: 05/09/2013

Report Date: 05/09/2013

Subject Material: 0.79" x 5.9" T.M. Ash Decking and 1.02" x 5.7" T.M. Ash Decking

Prepared by: _____
Michael J. Rizzo
Test Engineer

Reviewed by: _____
Robert J. Menchetti
Director, Laboratory Facilities and Testing Services

INTRODUCTION:

This report presents the results of specimens tested in accordance with the requirements of ASTM E84-12a Standard Test Method for Surface Burning Characteristics of Building Materials. This test method is also published under the designations ANSI/UL 723, NFPA 255, and UBC 8-1(42-1).

The purpose of this test method is to determine the relative behavior of the material by observing the flame spread along the specimen. Flame spread and smoke developed index are reported. However, there is not necessarily a relationship between these two measurements.

This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled laboratory conditions. It should not alone be used for fire hazard or fire risk assessment of the materials, products, or assemblies under actual fire conditions.

MATERIAL TESTED:

Material submitted by Thermory® USA, of Wilmette, IL was identified by the client as:

- **"0.79" x 5.9" T.M. Ash Decking"**
- **"1.02" x 5.7" T.M. Ash Decking"**

The material was received, in good condition, by NGC Testing Services on April 30, 2013. The material was submitted as nominally 95 in. long boards; twelve (12) boards were submitted for each sample material.

From the boards submitted, NGCTS personnel constructed (3) test specimen decks for each sample material, per ASTM Practice E2579. The specimen decks were constructed on May 8, 2013.

MOUNTING METHOD:

The specimen decks were placed end-to-end, directly on the tunnel ledges, and butted tightly together, to achieve the required 24 ft. length. No additional support was required.

Non-combustible, fiber-reinforced cement board (1/4 in. thick) was placed over the specimen decks as lid protection.

TEST RESULTS:

The test results, computed on the basis of observed flame front advance and electronic smoke density measurements are presented in the table below.

The reported flame spread and smoke developed indices, as presented below, are the computed comparison to the standard calibration materials – mineral fiber-reinforced cement board and select grade red oak flooring. The cement board is used to establish relative 0 values for flame spread and smoke developed; red oak decks are used to establish relative 100 values for flame spread and smoke developed.

TEST NO.	MATERIAL TESTED	SIDE EXPOSED	SUPPORT	CALCULATED FLAME SPREAD	CALCULATED SMOKE DEVELOPED
1	0.79" x 5.9" T.M. Ash Decking	Symmetrical	Self Supporting	36.85	246.91
2	1.02" x 5.7" T.M. Ash Decking	Symmetrical	Self Supporting	36.83	85.52

	MATERIAL TESTED	SIDE EXPOSED	SUPPORT	FLAME SPREAD INDEX *	SMOKE DEVELOPED INDEX*
	RED OAK FLOORING	Finished	Self Supporting	100	100
	REINFORCED CEMENT BOARD	Symmetrical	Self Supporting	0	0
1	0.79" x 5.9" T.M. Ash Decking	Symmetrical	Self Supporting	35	250
2	1.02" x 5.7" T.M. Ash Decking	Symmetrical	Self Supporting	35	85

* Flame Spread / Smoke Developed Index is the result (or the average of the results of multiple tests), rounded to the nearest multiple of 5. Smoke developed results in excess of 200 are rounded to the nearest multiple of 50.	CLASSIFICATION	FSI	SDI
	CLASS "A"	0 - 25	0 - 450
	CLASS "B"	26 - 75	0 - 450
	CLASS "C"	76 - 200	0 - 450

0.79" x 5.9" T.M. Ash Decking		1.02" x 5.7" T.M. Ash Decking	
FLAME SPREAD INDEX	35	FLAME SPREAD INDEX	35
SMOKE DEVELOPED INDEX	250	SMOKE DEVELOPED INDEX	85

OBSERVATIONS:

0.79" x 5.9" T.M. Ash Decking: The test specimen exhibited steady ignition at 00:32 (min:sec). The flame front reached a maximum distance of 9.08 feet, achieved at 09:54 (min:sec). After the ignition flame was extinguished, the test specimen continued to flame and was manually extinguished. Once the test specimen was cooled and removed from the furnace, it was observed to have a char length of 9 feet and was discolored to 24 feet.

1.02" x 5.7" T.M. Ash Decking: The test specimen exhibited steady ignition at 00:51 (min:sec). The flame front reached a maximum distance of 11.98 feet, achieved at 09:46 (min:sec). After the ignition flame was extinguished, the test specimen briefly continued to flame before self-extinguishing. Once the test specimen was cooled and removed from the furnace, it was observed to have a char length of 10 feet and was discolored to 24 feet.

The following data sheets are actual printouts of the computerized data system which monitors the tunnel furnace. The sheets contain all calibration and specimen data needed to calculate the test results.

Fire Testing Laboratory

TEST#: FH-2403-1 DATE: 5/9/2013

TEST METHOD: ASTM E84-12a

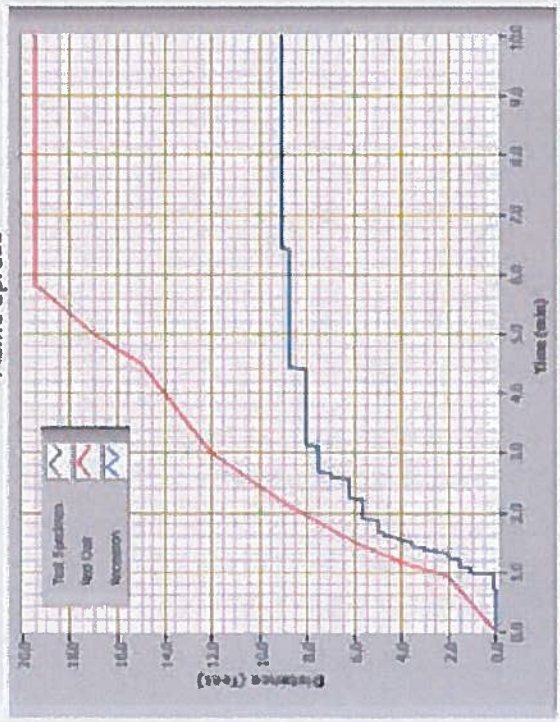
CLIENT: THERMORY USA
PROJECT#: E-977
SAMPLE: 0.79" X 5.9" T.N Ash Decking
MATERIAL: (3) 24" X 95" x Decks
SUPPORT: Self Supporting
REMARKS:
Ignition Time: 0:32
Max Flame Front:9.08 FT. @ 9:54

ADC DRAFT (IN. H2O)	0.080
GAS PRESS. (IN. H2O)	0.270
GAS VOL (CF)	49.25
BTU/cf	1022
SHUTTER (IN.)	3.00
TEMP. 13' BURIED	105 F

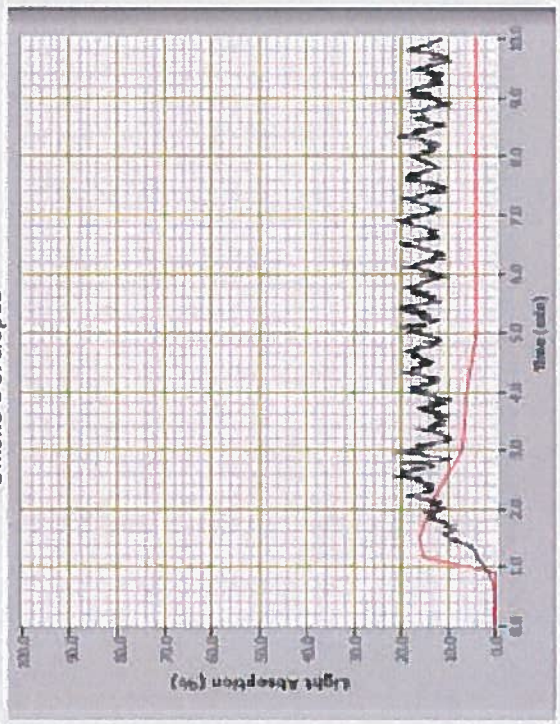
Flame Spread:	36.85
Area under Flame Curve (ft-min):	71.55

Smoke Developed:	246.91
Area under Smoke Curve (%A-min):	125.92

Flame Spread



Smoke Developed



1630 MILITARY ROAD, BUFFALO, 14217 TEL: 716-873-9750 FAX: 716-873-9753 EMAIL: NGCTEST@NGCTESTINGSERVICES.COM

Fire Testing Laboratory

TEST#: FH-2403-2 DATE: 5/9/2013

TEST METHOD: ASTM E84-12a

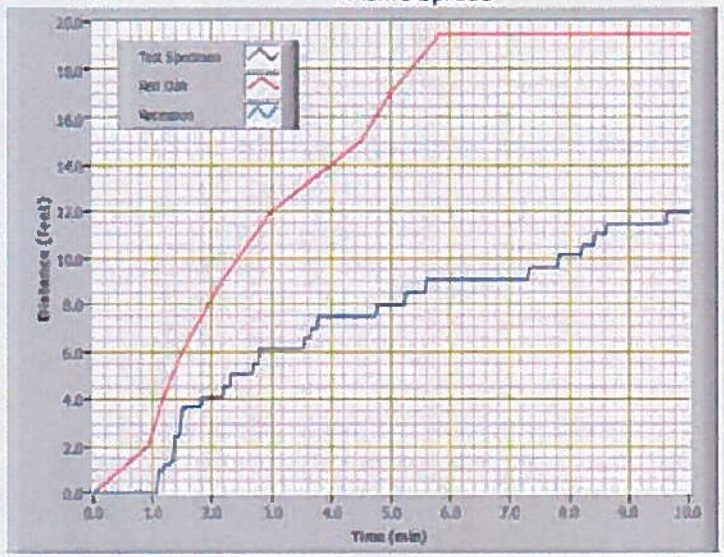
CLIENT: THERMORY USA
PROJECT#: H-977
SAMPLE: 1.02" x 5.7" T.M Ash Decking
MATERIAL: (3) 23" X 95" x Decks
SUPPORT: Self Supporting
REMARKS:
Ignition Time: 0:51
Max Flame Front:11.90 FT. @ 9:46

ADC DRAFT (IN. H2O)	0.080
GAS PRESS. (IN. H2O)	0.277
GAS VOL (CF)	49.40
BTU/cf	1022
SHUTTER (IN.)	3.00
TEMP. 13' BURIED	105 F

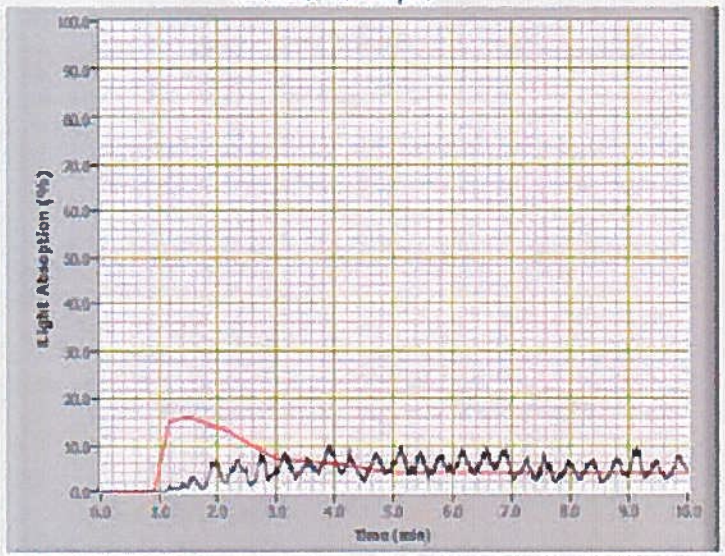
Flame Spread:	36.93
Area under Flame Curve (ft-min):	71.51

Smoke Developed:	85.52
Area under Smoke Curve (%A-min):	43.62

Flame Spread



Smoke Developed



1650 MILITARY ROAD, BUFFALO, 14127 TEL.: 716-873-9750 FAX: 716-873-9753 EMAIL: NGCTEST@NGCTESTINGSERVICES.COM

Withee document #4

Fire Retardant Coatings of Texas®, LLC
1150 Blue Mound Rd West #403
Haslet, Texas 76052
Off. (817) 710-5233 Fax (817) 439-8385
www.frctexas.com

FX LUMBER GUARD®
TECHNICAL DATA SUBMITTAL SHEET

MANUFACTURER OF
FX LUMBER GUARD®
FIRE RETARDANT PENETRANT

Technical Information		
FSI <25 SGI / SDI <50	Natural Mold Inhibitor & Insect Resistant	DO NOT LET FREEZE OR DILUTE
Apply 45-95°F Store >45°F	Non-Corrosive Non-Toxic	Non-Halogenated No Carcinogens or PBDE's
Certified 1 APPLICATION @ 300-350 SF PER GALLON		
Shelf Life: 3yrs	STAINABLE / PAINTABLE	ENVIRONMENTLY FRIENDLY

Intertek Certified Listed to ASTM E84 & ASTM E2768
Class A rated **on**
SYP, SPF, Hem Fir & Doug Fir Lumber, Doug Fir & SYP Plywood & OSB
See the Intertek Directory of Building Products, bpdirectory@intertek.com for complete information.

Additional Testing & Standards
CSI Div. 06 05 73.13 Fire Retardant Wood Treatment
CSI Div. 09 96 43 Fire Retardant Coatings
ASTM E119 1 hour rated (Commercial Assembly)
ASTM E119/ULCS101 17 min. rated (Res. Assembly)
CAN/ULC S102 Class A • ASTM D5664
ASTM D5516 • ASTM D3201 • AWPA E12
MEETS: NFPA 255/703 • AC363 • ANSI/UL723
UBC 42.1 • AWPA U1 UFCA (C20 & C27 withdrawn)
Additional Applications: I-Joist, PSL, LVL, LSL's, Glulam's, Cedar, Redwood, MDF, Particle Board and other porous softwoods / hardwoods & Sheathings.
NOTE:
The results of the three-listed species (Southern pine, Douglas fir, and either white spruce or a Spruce/Fir mixture) are allowed to be used together to make inference on untested wood species because the three-tested species represent the full spectrum of expected treatability. Ref: American Wood Counsel

We provide a red colorant for validation of treatment when requested by our customers at no additional cost.

FX Lumber Guard: Fire Retardancy is indefinite if protected from excessive exposure to high humidity of >80% constantly or wet locations.

FX Lumber Guard: treated dimensional lumber will not require retreating for straight or cross cuts, if ripping, the board will need re-treating, plywood can be straight, cross cut or ripped and will not require re-treatment.

FX Lumber Guard: can be stained or painted over after FX Lumber Guard treatment is dry.

Application Process:
Material to be treated must be clean (no sealer stains or paint) & dry before treating. Agitate FX Lumber Guard before and throughout the application. Apply as it's received by spraying with a hand pump sprayer, a high volume low-pressure system, rolled or brushed on at a rate of 300-350 sf per gallon depending on the material being treated. (Vertical spraying) Start from the bottom and work up as there is less run off this way, drying time will vary from 8-32hrs depending on temp & humidity in the air. The maximum moisture content for the substrate to be treated is 15 percent for dimensional lumber, 19 percent for plywood, and 16 percent for oriented strand board (OSB).

Field Testing:
When the observation of the treatment or field testing is required, field testing must be conducted as follows:
The treated substrate will not have distinctive observable features. To ensure the substrate has been treated properly, the treated substrate must be field tested, the flame from a small fire source (propane torch) is applied to a treated and untreated sample of the substrate for not less than 15 seconds. The presence of the treatment must be observable through the comparison of the reactions of the substrates to the flame. Presence of the fire retardant can be observed when it begins to form a black char layer.

Meets 16 CFR 1500.3 FHSA of the Consumer Product Safety Commission (CPSC) as Non-Hazardous / Non-Toxic

Degradation: Design Values *of lumber, plywood or OSB are not affected by the application of FX Lumber Guard due to the less evasive application then impregnation and kiln drying.*

WARNING: KEEP THIS AND ALL CHEMICALS OUT OF CHILDRENS REACH - AS WITH ANY PRODUCT, THIS PRODUCT MAY CAUSE EYE AND/OR SKIN IRRITAION - ALWAYS WEAR PERSONAL PROTECTION EQUIPMENT WHEN HANDLING THIS OR ANY CHEMICALS.

Witness document #5

FLAME STOP® II
PRODUCT DATA SHEET

FLAME STOP™ INC.
1-877-397-7867

DESCRIPTION:

Flame Stop II is a water-based, post-treatment, interior/exterior fire retardant, and wood preservative that penetrates the material and bonds with the cellular structure. The penetrant protects the substrate by developing a self-extinguishing reaction when the treated material comes in contact with an open flame. When properly applied on certain untreated woods such as Douglas fir, the wood shall have a Class A rating. Flame Stop II contains polymers that maintain the fire retardation for up to five years for exterior applications. Flame Stop II is non-toxic, non-combustible, non-carcinogenic, easy to apply, and contains no PDBE's.

BASIC USES:

Flame Stop II protects exterior and interior woods such as: porous woods, cedar shake shingles, decking, and structural lumber.

ADVANTAGES:

Flame Stop II is a Class A, one-coat system with a Flame Spread of 25 and Smoke Developed of 25 on Douglas fir. Since Flame Stop II penetrates and forms a molecular bond with the substrate, the life of the flame retardation shall be indefinite for most interior applications. For exterior applications, it is recommended that the Flame Stop II be reapplied after five years. Flame Stop II will not alter the structural integrity of wood, such as pressure treatment does, and is preferred, because it is user-friendly, functions as a wood preservative, dries clear, and can be easily applied by spraying, immersing, brushing, or rolling. Flame Stop II contains mold and mildew inhibitors which are effective against black mold. Once cured for 48 hours, the treated material may be painted with most latex-based paints.

LIMITATIONS:

Storage Range: 45 – 110 degrees Fahrenheit (7 – 43 Celsius)
Shelf Life: One year, if kept within storage range.
A compatibility test is strongly recommended.
Moisture content should be 5 – 15% before treatment.
Do not dilute.

TECHNICAL SUPPORT

Total solids:	15%
Wt per gallon:	9 Lbs.
Average ph:	7.0
Color:	White - cures Clear
Solvents:	Water
Bacterial:	Good resistance
Fungus:	Good resistance
Volatility:	None
Toxic:	No
Biodegradeable:	Yes
Corrosive:	Mildly corrosive on unplated steel
Linear shrinkage:	None
Insects, rodents and mold:	Excellent resistance

CONTACT US AT:

924 Blue Mound Rd.
Ft. Worth, TX 76131
817-306-1222
FAX 817-306-1733
info@flamestop.com

VISIT US AT:

www.flamestop.com

APPLICABLE STANDARDS:

Flame Stop II has been tested to the following standards: ASTM E-84, NFPA 255, UL 723: U.S. Testing #LA 62466, Omega Point Laboratories #8746-108578 Class A Rating.

APPLICATION:

Ensure that all materials are clean prior to application. Apply Flame Stop II as is by spraying, brushing, rolling, or immersing at the rate of 125 square feet per gallon. If spraying onto a vertical surface where runoff could occur, multiple applications may be necessary. When doing multiple coats, wait until the first coat has penetrated before beginning the next application. One coat will require a 48-hour curing period. For spray application, use a .012 tip size and a low-pressure airless sprayer.

**** After treatment a 48-hour conditioning period is necessary before testing ****

TESTING:

A small-scale test can be preformed with the utilization of a sample of the treated material and a small flame (butane lighter or match). Hold a 4" x 12" piece of the treated material vertically and apply the flame to the lower portion for 10 seconds, and then remove the ignition source. The flame must self-extinguish within two (2) seconds. This test is similar to the small-scale NFPA 701 field test.

FLAMESPREAD 25 AND SMOKE DEVELOPED 25 PER ASTM-E84 February, 2010

TESTED BY:
U.S. TESTING COMPANY INC. (SGS NORTH AMERICA)
OMEGA (INTERTEK) COMMERCIAL TESTING

C-14401

NOTES:

WARRANTY:

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith.

Withee document #6

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 8110-2135:0100

CATEGORY: 8110 -- DECKING FOR WILDLAND URBAN INTERFACE (W.U.I)

LISTEE: Thermory USA LLC1213 Wilmette Avenue, Suite 208, Wilmette, IL 60091
Contact: Mark Challinor (847) 256-8828
Email: mark@thermoryusa.com

DESIGN: Thermally-Modified Ash Deck Boards with dimensions of 3/4' x 5-7/8" or 1.02" x 5.7" with a maximum of 3/16" edge-to-edge spacing.
Refer to the manufacturer's installation instructions and product data sheets.

RATING: Class B Flame Spread

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee name, Model number, rating and SFM label.

APPROVAL: Listed as wood decking materials for use in the Wildland Urban Interface areas. Refer to manufacturer's Installation Manual for details.

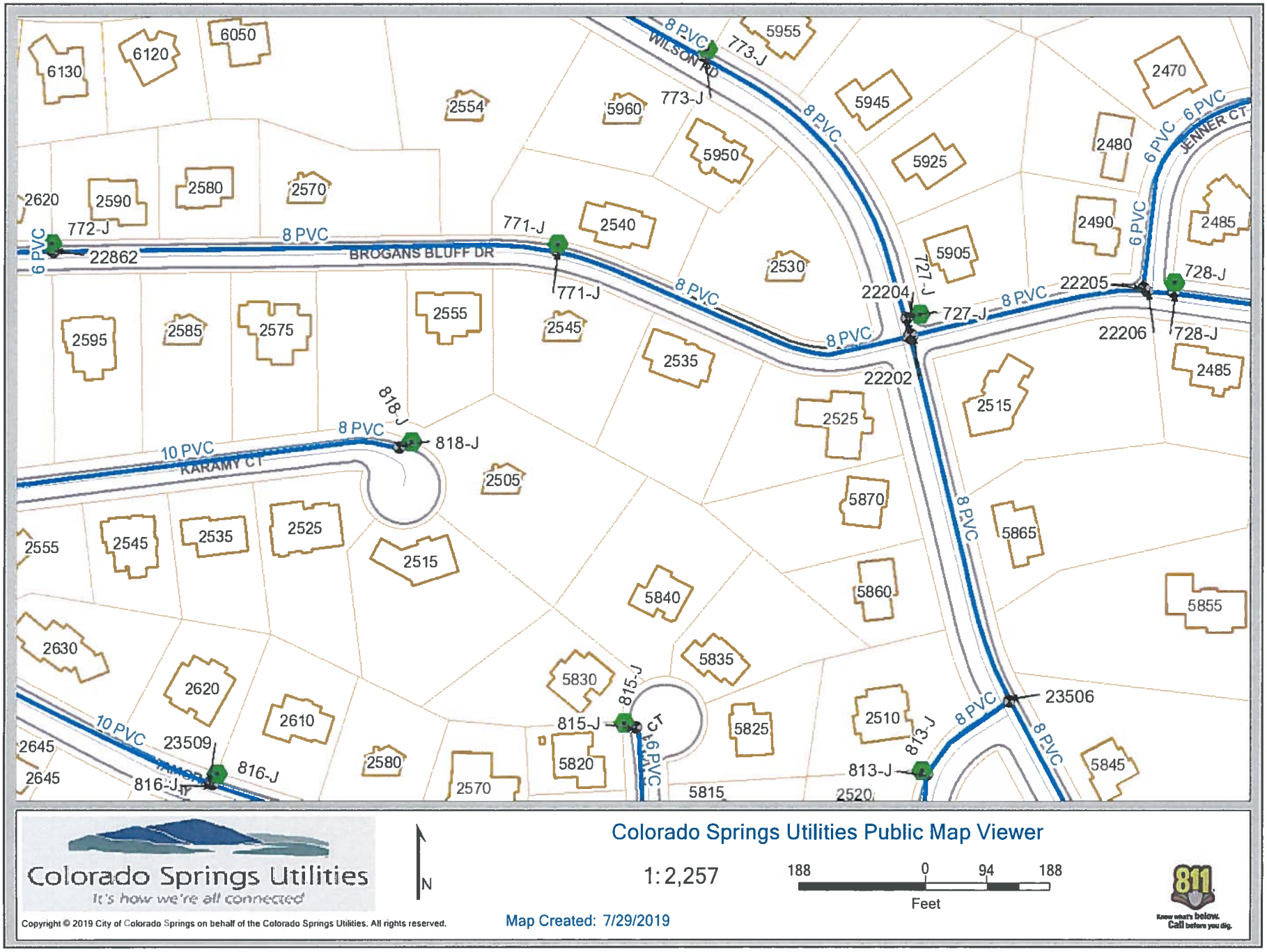
NOTE: Test Protocol SFM-12-7A-4A

09-25-13 gt

Date Issued: **July 01, 2018** *Listing Expires* **June 30, 2019**

Authorized By: ***DAVID CASTILLO**, Program Coordinator*
Fire Engineering Division

Witness document #7



Colorado Springs Utilities
It's how we're all connected

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Colorado Springs Utilities Public Map Viewer

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Feet

811 Know what's below. Call before you dig.

Map Created: 7/29/2019

Pollock photos
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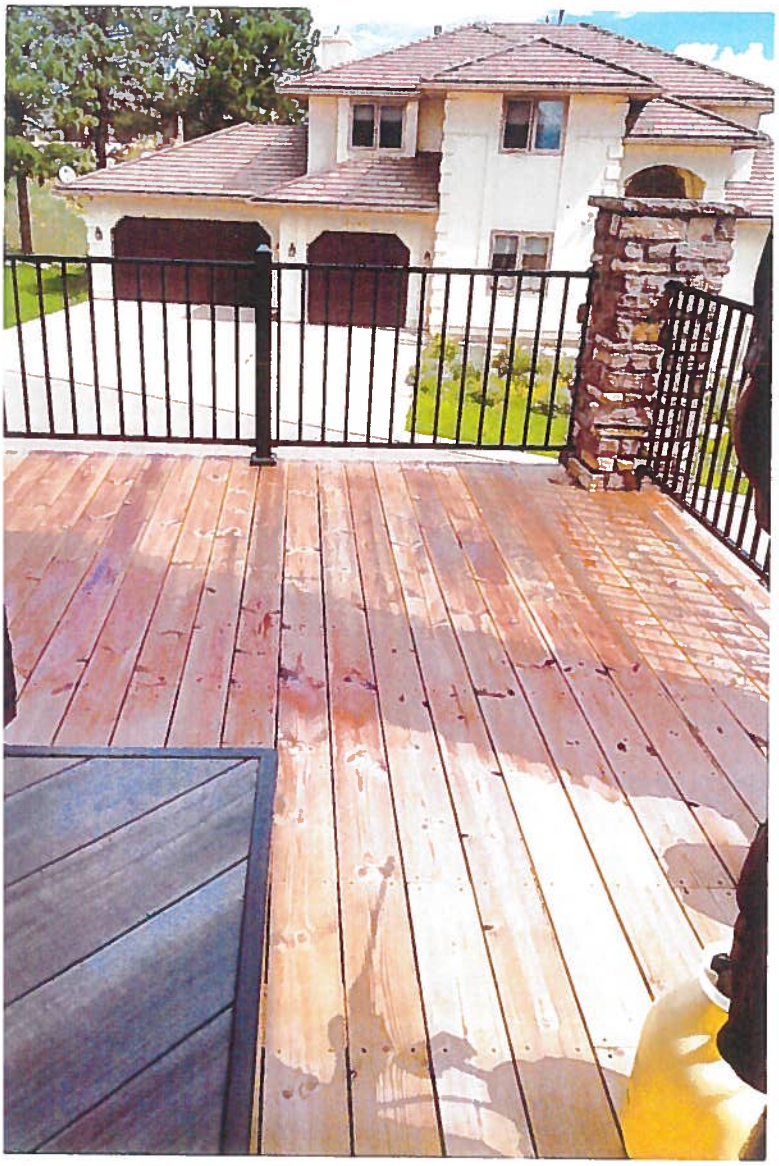

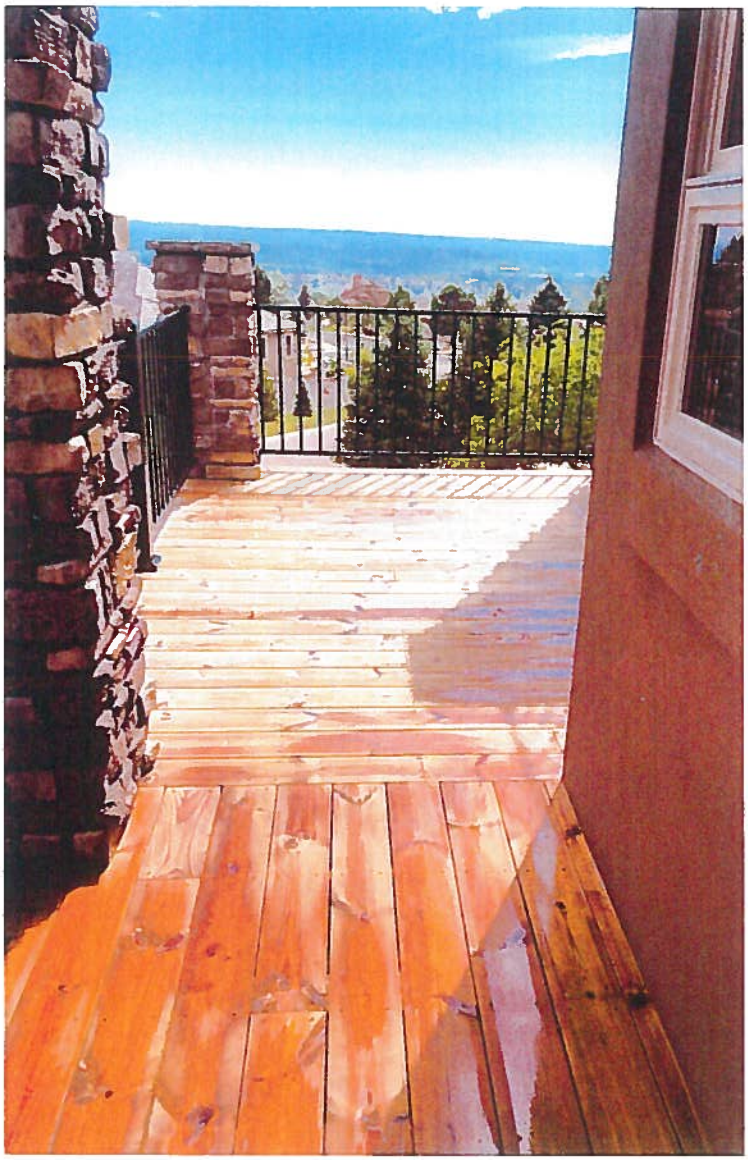

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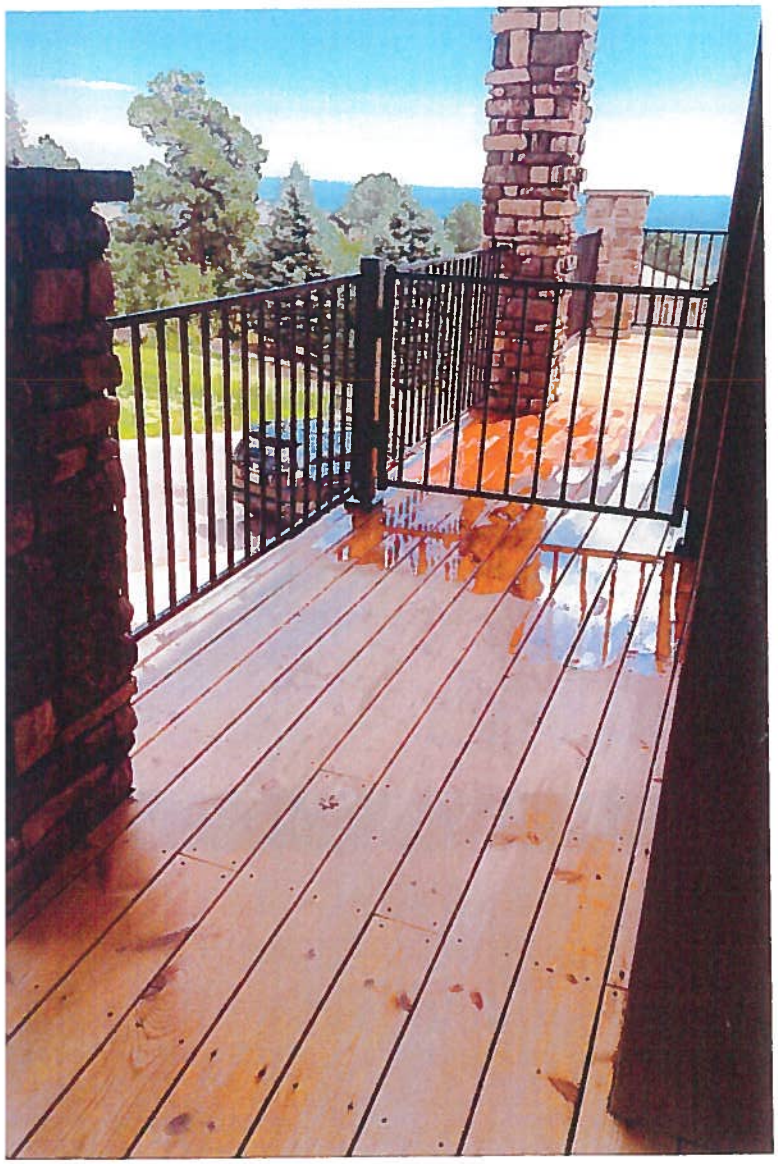

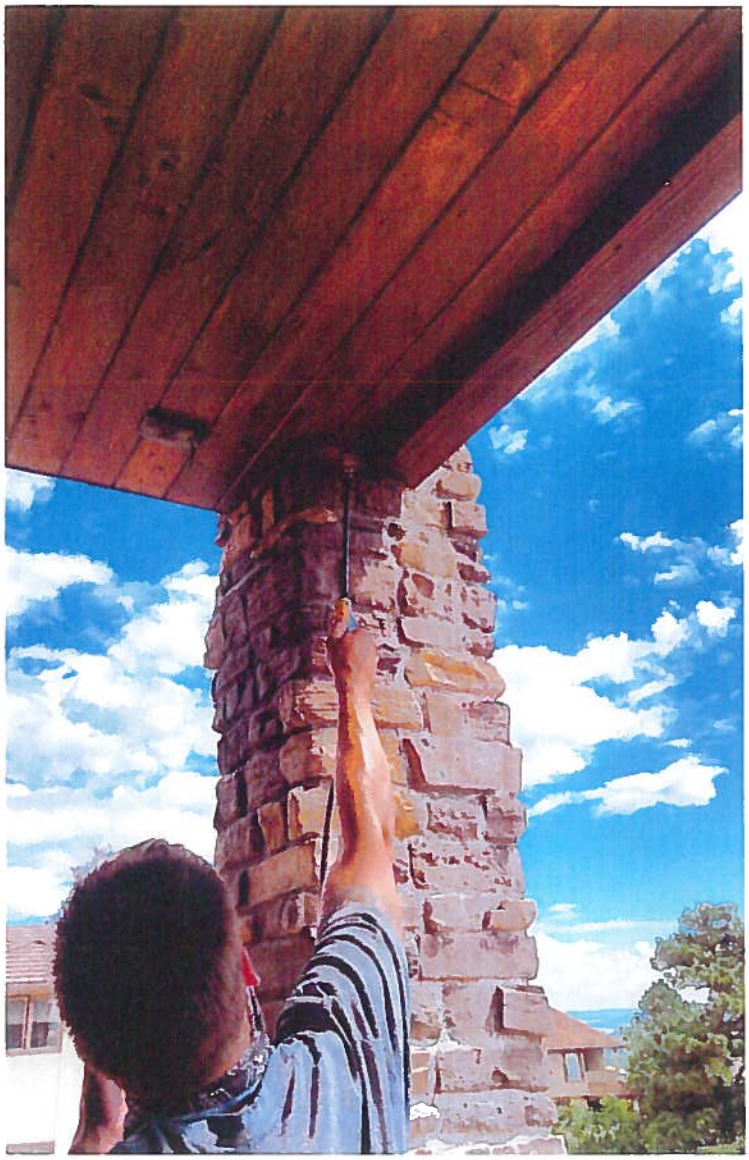

Pollock photos
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